EVENT STUDIES:
STOCK PRICE EFFECT ON THE ANNOUNCEMENT OF STOCK PLACEMENT

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ABSTRACT

This study examines the stock price effects of equity offerings announcement with respect to the relative size of offerings and size of the offering firms in Hong Kong. The results demonstrates that the announcement of equity offerings has a negative impact on the stock price. We also find that relatively large size offerings, which constitute a bigger signal to investors, have a bigger and faster negative response on the stock price. The findings are consistent with the hypothesis that equity issues are viewed by investors as negative signals, and also consistent with the hypothesis that there is a larger price effect of larger relative size offerings and offerings made by larger firms due to heavier information content, and investors usually pay more attention to relatively larger size offerings and offerings by large firms.

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

According to academic literature on finance, firms should be able to raise substantial funds by issuing large amounts of equity at the current stock price if the market is large and efficient. Efficiency means that investors are pricing the firm's stock correctly based upon the risk and expected return associated with its future cash flows. Investors don't buy a stock for its unique qualities; they buy it because it offers the prospect of a fair return for its risk. This means that the demand for a company's stock should be very elastic. If one stock's prospective risk premium is lower relative to its risk than other stocks, nobody will want to hold that stock. If it is higher, everybody will want to hold it. Based on this argument, a stock price reduction should not be required to induce investors to absorb an increased supply of shares, neither should dilution of current earnings per share reduce stock prices when firms issue equity. This is because in an efficient market, investors should be able to see through current earning dilution and price a firm's share based upon expected future cash flows. As long as a firm can earn a competitive return on funds raised, an equity issue should be a fair deal. The value of

the equity issue should be exactly equal to the value created by the firm's investment of the proceeds leaving the stock price unchanged. However, recent empirical research finds that stock offerings are often associated with price adjustments in firm's stocks.

Acquith and Mullins (1988) analyzed the impact of equity issues on stock prices. They took samples of 128 offerings of seasoned equity by industrial firms during the period of 1963 - 1981 in the United States. The result of the study found a statistically significant average two-day announcement period of -3.22%. Hasulis and Korwar (1986), doing the same study find a statistically significant average two-day announcement period return of -3.0% in response to the insurance of seasoned common stock. These research results seem to contradict the argument stated at the beginning of this paper. However, elastic demand does not imply that stock prices will never change, it does imply that you can sell a large block of stock at close to the current market price as long as you can convince investors that you have no private information.

This means that the negative effect is due to the revised assessment of the stock's value. Demand may be still elastic but the whole demand curve can move downwards. An important study by Myron Scholes (1972) of a large sample of secondary offerings confirmed the ability of the market to absorb blocks of stock. The average effect of the offerings was to reduce the stock price slightly, but the decline was almost independent of the amount offered. Scholes' estimate of the demand elasticity for a company's

stock was -3000. Of course this figure was not meant to be precise and some researchers have argued that demand is not as elastic as Scholes' study suggested. However, there seems to be widespread agreement with the general point that you can sell large quantities of stock at close to the current market price as long as other investors do not deduce that you have some private information.

Then, what are the reasons behind the negative price reaction toward stock offering? Clifford J Smith (1986) identified five hypotheses to explain the pattern of relative stock price effects. (1) Optimal Capital Structure - firms have an optimal capital structure and these price reactions reflect the change in value of the firm associated with the adjustment of the firm's liability structure; (2) Implied Cash Flow Change - the stock price changes provide information about future expected net operating cash flow; (3) Unanticipated Announcements - stock prices changes reflect only the unanticipated component of the announcement, hence, the more predictable an event, the smaller the associated stock price change; (4) Information Asymmetry - corporate managers have more information than the marginal purchaser of securities, hence, corporate managers are more likely to issue securities when they are overpriced in the market; (5) Ownership Changes - transactions that change the distribution of control rights in the firm effect the value of the firm's shares.

According to Masuhis and Korwar, common stock offerings have two major impacts on a firm: (1) the increase in equity capital lower the

firm's leverage; and (2) the proceeds are generally used to finance capital expenditures. Since most of the former researchers have concluded that the stock price reaction reflects more than the direct effects of the capital change on the firm's cash flow, the remaining undetermined factor is concerned with the nature of information about the firm that market participants infer from a capital structure change and use in revising their assessment of share value.

Signalling model provides a further elaboration on the implied cash flow change and information asymmetry hypothesis. According to Leland and Pyle (1977), changes in management stockholding provides a hint on the changing in firm value. Investors believe that management is better informed about the expected future cash flows of the company. So, they have incentives to hold large stock positions only if they expect the future cash flows to be high relative to the firm's current value. Rational investors will consider manager's fractional stock ownership to be a credible signal of firm value. Thus a decrease in managements' fractional shareholdings, induced by a stock offering to outside investors, is a negative signal about firm value. This prediction is empirically supported in a study of initial public offerings of stock by Downes and Heinkel (1982).

In addition, changes in outside financing are signals to investors of opposite changes in firm's current earnings. Miller and Rock (1885) derived this prediction from the firm's sources and use of funds constraint

assuming that investment decisions on average are unchanged. Thus, this model predicts a negative stock price reaction in the event of an equity offering which indicates that the firm has to rely on outside sources of funding.

In the Myers and Majluf (1984) adverse selection model, rational investors presume that on average managers approve stock offerings when, based on their superior information, they believe the stock is overvalued. This follows from the assumption that manager decisions are made on behalf of existing shareholders, who gain if additional stock is sold when it is overvalued and lose if additional stock is sold when it is undervalued relative to managers' superior information. Consequently, rational investors will lower their assessment of the stock's current value whenever a stock offering is announced.

Agency theory models as developed by Jensen and Meckling (1976) predict that larger percentage shareholdings by management decrease the potential conflicts of interest between managers seeking to maximize wealth for the company and the shareholders. Thus, any increase in outstanding shares, which decrease management percentage shareholdings, is predicted to have a negative impact on firm value and stock price. The larger the proportional size of the stock offering, the larger the predicted negative effect on the firm (assuming management does not subscribe to the offering).

Masulis (1983) observes that if managers adjust financial leverage to

maximize firm value, changes in management information regarding a firm's expected cash flow is signalled to investors through changes in leverage, given that tax rates, expected bankruptcy costs and non-debt tax shields are relatively stable. This can be viewed as an extension of the DeAngelo and Masulis (1980) optimal capital structure model where changes in firms' expected cash flows induce positive correlated changes in optimal leverage levels. Thus, rational investors infer that a decrease in leverage, caused by an equity offering possibly coupled with a decrease in outstanding debt, is a negative signal of firm value.

All of these theories relating to capital structure consistently predict that stock offering announcements will lower stock prices; security offerings are viewed as examples of the lemons problem presented by Akerl (1970). The basic premise of these models is that information about the firm's earnings prospects, investment opportunities or assets in place is unevenly distributed between the firm's managers and investors. The announcement of a security offering that represents new financing conveys unfavourable information to the market. All these models can be viewed as an application of the lemons problem with a particular concern with the effect of information asymmetry.

In this paper, I will focus on the Hong Kong stock market. Using the same method as used by most of the former researchers, I will find out the relationship between the stock price movement in accordance with the announcement of seasoned stock offerings. I expected there will be a

negative impact on the stock price in Hong Kong also. In addition, I will attempt to look into the relation between the stock price effect at the announcement of security offerings and the relative size of the offerings. There is an assumption made here between the information content and the size factor, such that offerings of larger relative size carry stronger signals than those of smaller relative size, and as a result, will have larger price effects. Also, because of the limitation of the offering size to 20% of outstanding share capital within one fiscal year, relatively large offering size also means relatively large size company in terms of market capitalization, and security offerings made by larger firms (in terms of market value) are believed to have a larger price effect than those made by smaller firms, since investors in general pay more attention to the activities of larger firms and their behaviour reflects the state of economy. From this line of reasoning, we expect to find a larger impact in the case of larger firms due to stronger signals to the public.

CHAPTER II

SAMPLE DESCRIPTION

I have identified a total of 174 placement announcements by listed companies in Hong Kong. These included 64 in 1991, 109 in 1992 and 1 in 1993. Out of these 174 announcements, I randomly selected 87 announcements to be the total size of this study. This represents a total offering size of 36.7 billion HK dollars. All the samples have conformed to the following criteria:

(1) Announcement date is determined by the date when the announcement was first published in the Hong Kong Economic Journal, a reputable Chinese financial newspaper in Hong Kong.

(2) No contaminating announcement must have been reported by the firm between 10 days before and 10 days following the announcement of the stock placement, such as earnings or restructuring announcements.

(3) No simultaneous announcements of other financing programs such as preferred stock, convertible paper and warrant offerings occur.

(4) The issue is an underwritten public offering. Rights offerings are excluded.

Two sub-samples will be formulated in order to test the effect on the relative size of the placement. The biggest 25 offerings, which account for 87% of the total offering size of the total sample will be used to test the effect of large size offerings, and the smallest 25 offerings, which only account for 2.06% of the total offering size, will be used to test the effect of small size offerings. Here is an assumption that those companies in the big size samples are relatively large capital stock and those companies in the small size sample are relatively small capital stock. This is because Stock Exchange regulations restrict the size of the placement at a maximum of 20% of the total outstanding shares.

CHAPTER III

METHODOLOGY

I will apply standard event-study methodology to analyze stock price reaction to the announcement of stock placement.

The specific model considered in this study is the single-index market model. For each security, i, the market model is used to calculate abnormal returns (XRs) for day t as follows:

$$XR_{it}=R_{it}-(a_i+b_iR_{mt}) \qquad (1)$$

where R_{it} and R_{mt} are the rate of return on security i and the rate of return on the Hang Seng Index (HSI) on the event day t. The security specific parameters (a_i and b_i) are estimated by regressing firm returns against HSI returns over pre-event estimation period. The estimation period is from -151 to -31 days of the initial announcement date (t = 0).

For each firm i and each trading day t within the event period (t = -30 to t = +30), we calculate an average excess return (AXR) for the portfolio of n securities as follows:-

$$AXR_t = (1/n) \sum_{i=1}^{n} XR_{it} \qquad (2)$$

Complete analysis of changes in the value of the portfolio requires cumulation of the average excess returns over time. The cumulative excess returns, CARs, surrounding the period of time beginning -b days before the announcement of a stock offering and ending e days after the announcement is defined as:-

$$CAR_i = \sum_{t=-b}^{e} AXR_{it} \qquad (3)$$

Daily excess returns for the period from 30 days before the event through 30 days after the event were used. Examination of the CARs before and after the announcement date provides information on the behaviour of stock prices surrounding common stock offering announcements.

CHAPTER IV

RESULTS

Summary of my findings are shown in Table 1 and Table 2.

TABLE 1

SUMMARY OF FINDINGS

	Total Sample	Sub-Samples Large	Small
Sample Size (n)	87	25	25
Abnormal return on announcement date	0.3272%	-0.6500%	0.9431%
Percentage of negative abnormal return	47.13%	60%	40%
Appreciation of CAR before the announcement	5.8149%	4.9101%	11.1296%
Peak out day	t=2	t=-1	t=1
% of declined of CAR from the announcement day to the end of the observation period	-4.1132%	-8.0340%	-3.2735%

Under the total sample of 87 announcements, the average abnormal return of the portfolio on the announcement date is 0.3272%. Out of the

total 87 announcements, 47.13% had a negative abnormal return on the announcement day. As shown in Figure 1, the cumulative abnormal return (CAR) started climbing up from the 14th day before the announcement day (t = -14) and peaked out on the 2nd day after the announcement (t = 2). It then continuously went down, and on the 30th day after the announcement day (t = 30), the CAR accounted for 2.2124%, which is 4.8413% lower than the peak level (on t = 2, CAR is 7.0537%).

The relatively big size offerings sub-sample posted an average abnormal return of -0.65% on the announcement day. Out of the 25 announcements in this sub-sample, 60% had a negative abnormal return on the announcement day. As shown in Figure 2, the CAR of this sub-sample started climbing up from the 16th day before the announcement day (t = -16) and peaked out on the first trading day after the announcement. The CAR continuously went down and became negative on the 17th day after the announcement (t = 17). On the last day of the observation period (t = 30), CAR is -3.9407%, it is a 8.0839% decline from the peak.

The relatively small size offerings sub-sample posted an average abnormal return of 0.9431% on the announcement day. Out of the 25 announcements in this sub-sample, 40% had an negative abnormal return on the announcement day. According to Figure 3, before the CAR peaked out on the first trading day after the announcement, it had been continuously climbing up for approximately 12% since the 18th day before

the announcement day (t = -18). On the last trading day of the observation period, CAR was standing at 5.2588%, which is 3.8502% lower than the peak level and 7.8651% higher than the level on t = -18.

Comparing the result of the total sample and the two sub-samples, you will find that the small relative offering size sub-samples enjoyed the biggest appreciation of abnormal return before the announcement day, and at the same time, it suffered the least decline of the CAR after the announcement day. On the contrary, the biggest relative offer size sub-sample enjoyed the least appreciation of abnormal return before the announcement and suffered the biggest decline of CAR after the announcement day.

The result of this study shows a slight difference from those of previous studies. I will try to elaborate it in the following sessions:

Appreciation of the CAR before the announcement day

The result of this study shows a sharp appreciation of CAR before the announcement day (as shown in Table 1). It may be due to the following reasons:

(1) As mentioned by past literature, managements are more willing to offer a large amount of shares to the public when they consider the stock price is relatively higher than it should be. By doing so, the management can take the advantage of

selling shares at a higher level in order to maximize the wealth of the existing shareholders. Since the managements are expected to hold more information about the company than the general public, they should know the optimal level of the stock price. Stock placement is the most convenient method to take the advantage of selling a large block of overpriced shares. If the company has a close connection with a brokerage house, it can arrange a stock placement within a short period of preparation time.

(2) We cannot neglect the possibilities of insider trading or manipulation of stock price before the announcement of stock offering. If the management or the big shareholders intend to sell a large block of shares, they may try to accumulate the shares at a relatively low level, then push up the stock price and sell out at a relatively high level. This kind of manipulation may not happen in large and strictly regulated markets such as the United States, but it is possible in a small and loosely regulated market like Hong Kong.

<u>Delay of reaction toward stock placement announcement</u>

The CAR in the sample peaked out on t = 2 instead of on the

announcement date. This seems quite inconsistent with those previous studies. Some people may suspect that it may be due to the mis-specification of the announcement date. However, if it happened, the result may not be as conclusive as the current one. Since the identification of the announcement date is based on the report of a reputable local financial newspaper, it is reasonable to accept the result, and I would like to explain the reasons for such divergence as follows:

(1) Listed companies usually offer a certain discount on the price when carrying out stock placement in Hong Kong. A less attractive company will offer a bigger discount in order to attract buyers. It may help the market to absorb the block selling and keep the price stable over a certain period. However, once the stock price drops below the placement price, it will trigger further selling because investors are convinced by the stock price performance that there must be some negative signal being conveyed by the placement.

(2) Compared with the United States market, the Hong Kong market is less efficient. It may be due to the market size and the quality of investors. It takes a longer time in the Hong Kong stock market to absorb and fully reflect the effect of new information correctly.

Stock placement as a negative signal

Eventually, the portfolio's CAR dropped substantially due to the announcement of the stock placement. As we have mentioned earlier in this paper, the response of investors towards a stock placement depends on how they infer a firm capital change and use in revising their assessment of share's value. No matter what the stated reasons of the placement are, investors will psychologically infer selling as a bad signal. In their experience, large shareholders will only sell blocks of shares when it is over-priced. The decision to sell equity is made by managements who possess an insiders' knowledge of the firm, its current performance and future prospects. To protect themselves against the risk of buying overvalued shares, investors mark down the stock price in response to the announcement that management is willing to sell equity. Indeed, this sort of price hedging is common in any trading situation where some participants are viewed as having superior information. Of course, the firm selling equity may simply be raising funds to finance a very profitable investment project. Because of the information imbalance, there may be no credible way to convince investors of managements' laudable motive for issuing equity. This kind of feeling is particularly strong toward big companies. When a big company asks for a big amount of cash from the market, not only will it tighten the liquidity of the market, investors will start to worry about the reason behind it. Obviously, they are not willing to keep the company's share since they are not certain about the future.

Relatively large offering size versus

small offering size

According to Myron Scholes (1972), markets have the ability to absorb blocks of stock. The average effect of the offerings was to reduce the stock price slightly, but the decline was almost independent of the amount offered. However, the results of this study are a reversal of Myron Scholes's view. The large size offerings sub-sample recorded a greater loss compared with that of the small size offerings sub-sample upon the announcement of stock placement. In fact, it is quite consistent with the Signalling model that larger size offering convey a larger signal towards investors, and investors are usually pay more attention to big companies. In this case, it is quite reasonable that a large size offering will have a larger negative impact on its price.

CHAPTER V

IMPLICATION

The implications of my findings for investors and for firms raising capital are quite different from those previous studies. According to Acquith and Mullins, the negative price effect has, to a certain extent, discouraged firms from raising external funds to finance capital expenditures. However, according to the findings here, the negative price effect does not outweigh the advantages of companies searching for external financing. Since most of the issues happened during the rising of the CAR, companies who want to raise capital are actually enjoying an advantage in selling overpriced shares. This situation is especially significant on small companies issuing small amounts of shares. In this case, when investors intend to buy from a stock placement, they should be very careful. In most cases, investors only consider the discount of stock price offered by the issuer and neglect the actual price level as well as the quality of the company.

In case of large companies issuing large amounts of shares, the findings show a more significant impact on the stock price movement. However, I believe the issuers still enjoy an advantage over investors on stock placement activities. Since the relative size of the HK stock market

is still small, and regulation is quite loose when compared with the United States, companies or those big shareholders can enjoy the advantage of the existence of information imbalance between ownership and management of the company. The delay in the price reaction toward the announcement of stock placement supports my argument here.

CHAPTER VI

CONCLUSION

Models from previous researchers have led us to believe that stock placement announcements have the following impact on stock prices:

(1) announcement of stock offering is followed by a negative impact on the stock price,

(2) and, the larger the relative size of an equity offering and the larger the size of the offering firm can be interpreted as stronger signals to the investors and as a result, the impact on the price effect will be greater than their counterparts.

The result of my study is quite consistent to the above mentioned results but does not totally conform with them. It is different from those previous studies in the following magnitudes:

(1) the negative reaction of the stock price happened on the third trading day (t=3) instead of the event day (t=0).

(2) there is a substantial increase in the abnormal return on the portfolio before the stock placement announcement which is not observed in previous studies.

In the previous sections, I have tried to explain the reasons for such differences. Due to insufficient manpower and time, the result of this study may not be conclusive, however, I hope the work done here will draw the interest of other people to this issue, I am looking forward to see a more in-depth and conclusive study on the price effect on stock placement announcements in the Hong Kong stock market. Possible areas for the extension of this research are as follows:

(1) Since this study finds a sharp appreciation of the CAR before the announcement of placement, a study of the information asymmetry seems very interesting.

(2) The study would be more specific if one can identify the stated reason for each stock placement. Through cross study of the price effect of different samples with different stated reasons of financing, you can see how investors respond to stock placement with different reasoning.

(3) Because of the loosening of regulations, there is an increasing popularity of stock placement over rights issues in HK. Compared to placement, rights issues require more legal and preparation work and higher transaction costs. A comparison of the stock price effect between stock placement and rights issues is quite interesting. By this comparison, we can discover whether investors hold a different view towards

placement and rights issues.

(4) A study of the behaviour of the investment public towards company financing programs would be very helpful for a company in making a financing decision. What is the most important consideration of investors when they decided to buy a placement? Is the price discount more important than the prospect of the company?

FIGURE 1

CAR CURVE OF TOTAL SAMPLE (n=87)

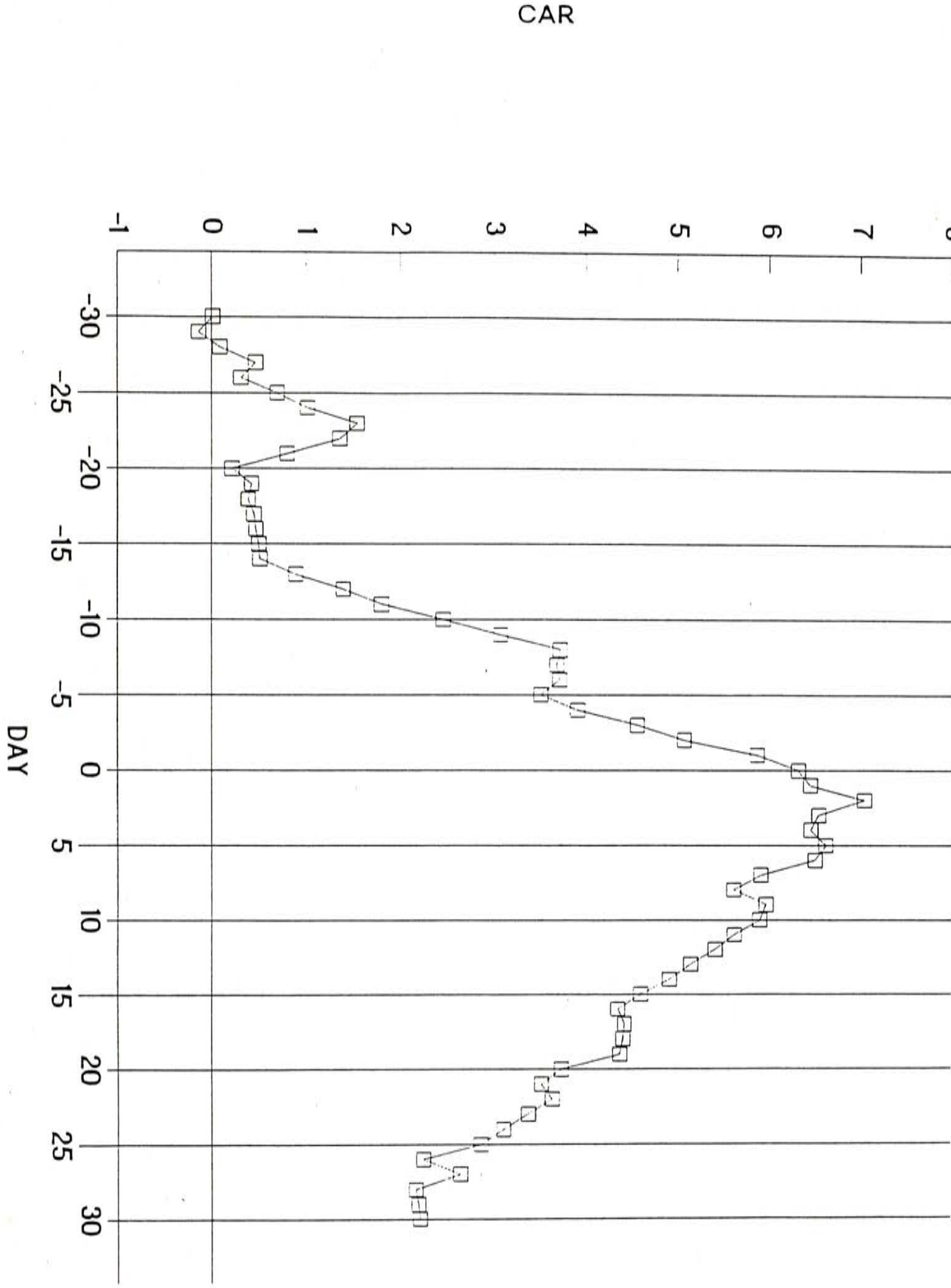

FIGURE 2 CAR CURVE

LARGE OFFERING SIZE SUB-SAMPLE (n=25)

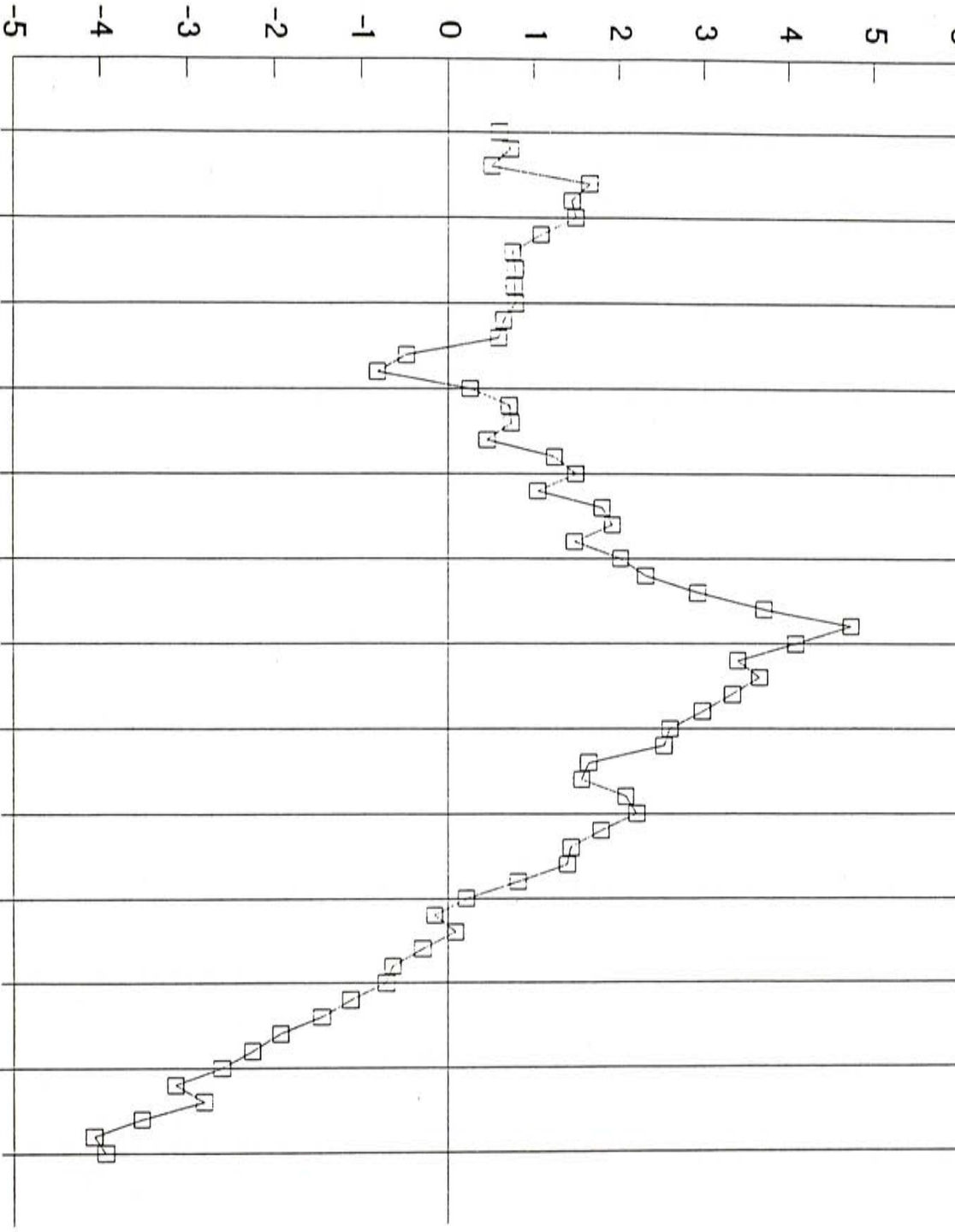

FIGURE 3 CAR CURVE

SMALL OFFERING SIZE SUB-SAMPLE (n=25)

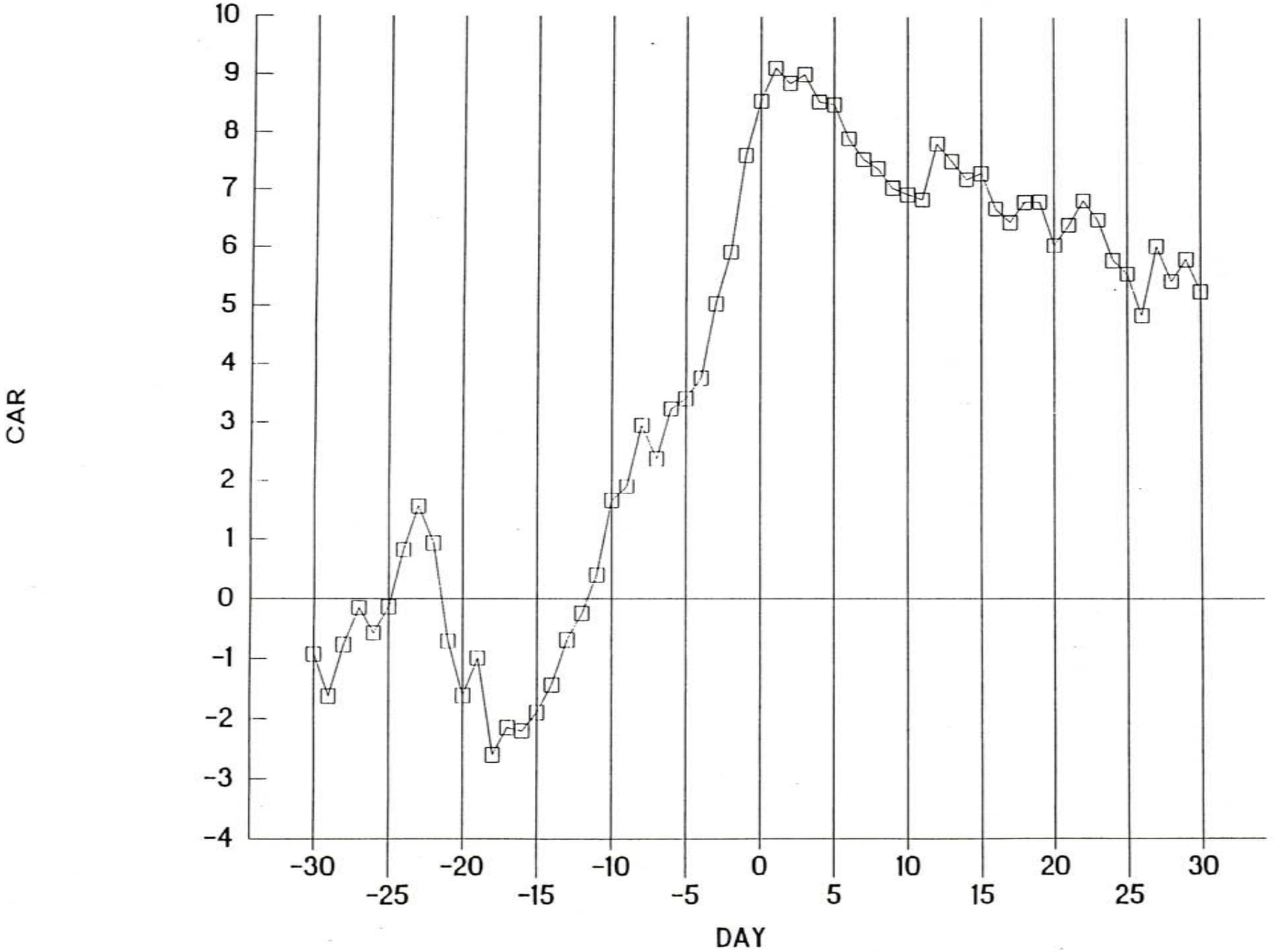

TABLE 2

DAY	TOTAL SAMPLE (N = 87) ARs	TOTAL SAMPLE (N = 87) CARs	BIG RELATIVE SIZE (N = 25) ARs	BIG RELATIVE SIZE (N = 25) CARs	SMALL RELATIVE SIZE (N = 25) ARs	SMALL RELATIVE SIZE (N = 25) CARs
−30	0.0119	0.0119	0.5955	0.5955	−0.9304	−0.9304
−29	−0.1521	−0.1402	0.1247	0.7202	−0.6919	−1.6223
−28	0.2256	0.0855	−0.2089	0.5114	0.8503	−0.7720
−27	0.3766	0.4620	1.1454	1.6568	0.6169	−0.1551
−26	−0.1539	0.3081	−0.2120	1.4448	−0.4181	−0.5733
−25	0.3870	0.6951	0.0439	1.4886	0.4385	−0.1348
−24	0.3197	1.0148	−0.4048	1.0838	0.9615	0.8268
−23	0.5261	1.5409	−0.3329	0.7509	0.7345	1.5612
−22	−0.1843	1.3566	0.0298	0.7807	−0.6213	0.9399
−21	−0.5567	0.8000	−0.0120	0.7687	−1.6501	−0.7102
−20	−0.5842	0.2157	0.0147	0.7835	−0.9084	−1.6185
−19	0.2053	0.4210	−0.1410	0.6425	0.6259	−0.9927
−18	−0.0349	0.3861	−0.0572	0.5853	−1.6046	−2.5973
−17	0.0622	0.4483	−1.0704	−0.4852	0.4517	−2.1456
−16	0.0206	0.4689	−0.3317	−0.8168	−0.0538	−2.1994
−15	0.0288	0.4976	1.0753	0.2584	0.3067	−1.8926
−14	0.0131	0.5107	0.4503	0.7087	0.4553	−1.4374
−13	0.3803	0.8910	0.0284	0.7371	0.7476	−0.6898
−12	0.4989	1.3899	−0.2812	0.4559	0.4436	−0.2462
−11	0.4142	1.8041	0.7835	1.2394	0.6429	0.3967
−10	0.6557	2.4598	0.2508	1.4902	1.2589	1.6556
−9	0.6113	3.0711	−0.4487	1.0415	0.2370	1.8926
−8	0.6525	3.7236	0.7585	1.8000	1.0488	2.9413
−7	−0.0385	3.6851	0.1180	1.9180	−0.5737	2.3676
−6	0.0300	3.7151	−0.4424	1.4756	0.8542	3.2218
−5	−0.2067	3.5084	0.5419	2.0175	0.1755	3.3973
−4	0.4046	3.9130	0.2960	2.3135	0.3563	3.7537
−3	0.6530	4.5659	0.6194	2.9329	1.2750	5.0287
−2	0.5115	5.0774	0.7807	3.7136	0.8898	5.9185
−1	0.7945	5.8719	1.0296	4.7432	1.6706	7.5891
0	0.4537	6.3256	−0.6500	4.0933	0.9431	8.5323
1	0.1327	6.4583	−0.6920	3.4012	0.5767	9.1090
2	0.5954	7.0537	0.2586	3.6598	−0.2631	8.8459
3	−0.5015	6.5522	−0.3182	3.3416	0.1517	8.9976
4	−0.0903	6.4619	−0.3516	2.9900	−0.4735	8.5242
5	0.1662	6.6280	−0.3873	2.6027	−0.0431	8.4811
6	−0.1198	6.5082	−0.0656	2.5371	−0.5929	7.8882
7	−0.5941	5.9141	−0.8873	1.6498	−0.3614	7.5268
8	−0.2962	5.6179	−0.0830	1.5667	−0.1585	7.3683
9	0.3512	5.9691	0.5168	2.0836	−0.3345	7.0337
10	−0.0656	5.9035	0.1327	2.2162	−0.1112	6.9225
11	−0.2803	5.6232	−0.4227	1.7935	−0.0897	6.8328
12	−0.2065	5.4167	−0.3523	1.4412	0.9703	7.8030
13	−0.2661	5.1506	−0.0424	1.3988	−0.3094	7.4937
14	−0.2320	4.9186	−0.5787	0.8201	−0.3100	7.1837
15	−0.3163	4.6022	−0.6055	0.2146	0.1075	7.2912
16	−0.2463	4.3559	−0.3715	−0.1568	−0.6075	6.6837
17	0.0725	4.4285	0.2466	0.0898	−0.2407	6.4430
18	−0.0171	4.4113	−0.3835	−0.2938	0.3465	6.7896
19	−0.0329	4.3784	−0.3469	−0.6407	0.0126	6.8021
20	−0.6388	3.7396	−0.0766	−0.7173	−0.7510	6.0511
21	−0.2193	3.5203	−0.4093	−1.1266	0.3477	6.3988
22	0.1179	3.6382	−0.3353	−1.4618	0.4220	6.8207
23	−0.2638	3.3743	−0.4691	−1.9310	−0.3291	6.4916
24	−0.2674	3.1070	−0.3295	−2.2605	−0.6981	5.7935
25	−0.2413	2.8656	−0.3512	−2.6117	−0.2362	5.5574
26	−0.6185	2.2472	−0.5236	−3.1353	−0.7186	4.8387
27	0.3951	2.6422	0.3223	−2.8129	1.1945	6.0333
28	−0.4764	2.1658	−0.7161	−3.5290	−0.6018	5.4315
29	0.0311	2.1969	−0.5449	−4.0739	0.3786	5.8101
30	0.0154	2.2124	0.1332	−3.9407	−0.5513	5.2588

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